

**Record of Decision
Naval Air Station, South Weymouth, MA
Appendices**

Appendix A: Massachusetts Department of Environmental Protection Letter

Refer to attached copy.



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

MITT ROMNEY
Governor

KERRY HEALEY
Lieutenant Governor

ELLEN ROY HERZFELDER
Secretary

ROBERT W. GOLLEDGE, Jr.
Commissioner

Ms. Susan Studlien
Director, Site Remediation and Restoration
U.S. Environmental Protection Agency
JFK Building
Boston, MA 02203-2211

Re: Record of Decision
Rubble Disposal Area
Former South Weymouth NAS
RTN 3-2621
December 23, 2003

Dear Ms. Studlien:

The Massachusetts Department of Environmental Protection has reviewed the *Record of Decision for Operable Units 2 and 9, Rubble Disposal Area, Naval Air Station South Weymouth*, dated December 13, 2003. Based on this review and our understanding of the Navy's intent to address the remedial design concerns identified below after the Record of Decision is signed, the Department offers our concurrence on the Record of Decision.

Regarding the remedial design concerns that will be addressed after the Record of Decision is signed, it is the Department's understanding that the Navy will:

- Prepare a comprehensive delineation of the 100-year floodplain associated with the Old Swamp River to determine the specific design components that will be integrated into the remedy to protect the landfill cover system from erosion and submergence during flood events (e.g., riprap, a concrete flood barrier, or relocation of buried waste to elevations above the 100-year floodplain);
- Include a bio-barrier (e.g., geotextile, gravel layer, or cobble layer) in the cover system design to ensure the integrity of the cover system and prevent exposure of burrowing animals to the buried wastes that will remain at the site (elevated levels of PCBs were detected in the tissues of burrowing animals collected from the site);
- Include a gas management system in the cover system design (e.g., gas venting layer, subgrade layer, or gas collection and extraction system), if warranted based on a recently completed pre-design investigation;
- Identify and integrate design components that will ensure that the cover system will not be compromised by the future passive and active recreational uses (e.g., foot traffic and biking) anticipated by the base reuse plan (e.g., use a cover thickness greater than

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DEP on the World Wide Web: <http://www.mass.gov/dep>

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minimum requirements, include a warning layer, conduct semi-annual site inspections, and post signs providing contacts who can be reached to receive and respond to damage reports);

- Design and implement a long-term groundwater monitoring program that will include installation and periodic sampling of a minimum of three overburden monitoring wells and one bedrock monitoring well located downgradient of the regions where the largest accumulations of waste would remain onsite. At a minimum, the groundwater samples should be analyzed for the analytes specified in the state solid waste regulations [310 CMR 19.132(1)(h)] and additional Target Compound List (TCL) and Target Analyte List (TAL) chemicals determined based on the known and potential chemicals of concern at the site, including PCBs, petroleum constituents, and metals. This monitoring is essential to the protection of the underlying drinking water source area; and
- Design, implement, and maintain land use controls that will prevent exposure to contaminated soil and groundwater.

The Department has commented on these concerns in the past; however, the Navy has deferred addressing the concerns to the post-ROD design phase. Consequently, the Department is depending on the Navy, as the lead agency for this remedial action, to address the concerns during the design phase in order to implement a remedy that is protective of human health and the environment.

If you have any questions or comments, please contact David Chaffin, Project Manager (617 348-4005), or Anne Malewicz, Federal Facilities Section Chief (617 292-5659).

Very truly yours,



Deirdre C. Menoyo
Assistant Commissioner
Bureau of Waste Site Cleanup

CC: D. Barney, USN-S. Weymouth
P. Marajh-Whittemore, USEPA
Executive Director, SSTTDC
RAB Members
J. Felix, MADEP-Boston
J. Fitzgerald, MADEP-Boston
J. Naparstek, MADEP-Boston

**Record of Decision
Naval Air Station South Weymouth
Appendices**

Appendix B: References

- EA Engineering and Science, 2002. Site Management Plan for Naval Air Station South Weymouth. Weymouth, Massachusetts.
- ENSR International, 2001, Consideration of Constructing a New Landfill, NAS South Weymouth, MA, Memorandum dated May 2001.
- Tetra Tech NUS/ENSR, 2001, Phase II Remedial Investigation, Rubble Disposal Area, NAS South Weymouth, MA, January 2001.
- Tetra Tech NUS/ENSR, 2002, Feasibility Study, Rubble Disposal Area, NAS South Weymouth, Weymouth, MA, March 2002.
- U.S. Navy, 2003. Proposed Plan for Operable Units 2 and 9, Rubble Disposal Area, NAS South Weymouth, MA. Fact Sheet.
- U.S. Environmental Protection Agency (EPA), 1988, Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, EPA/540/G-89/004, October.
- EPA. 1989. Risk Assessment Guidance for Superfund. Volume I. Human Health Evaluation Manual (Part A). Interim Final. Office of Emergency and Remedial Response, Washington, D.C. December 1989. EPA/540/1-89/002.
- EPA, 1990, National Oil and Hazardous Substances Pollution Contingency Plan, Final Rule, 40 CFR Part 300, Federal Register 55(46):8718.
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- EPA. 1991b. Risk Assessment Guidance for Superfund. Volume I. Human Health Evaluation Manual (Part C, Risk Evaluation of Remedial Alternatives). Interim. Office of Emergency and Remedial Response, Washington, D.C. December 1991. Publication 9285.7-01C.
- EPA. 1991c. Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. OSWER Directive 9285.6-03. Interim Final. Office of Emergency and Remedial Response, Toxics Integration Branch, Washington, D.C.
- EPA. 1992a. Supplemental Guidance to RAGS: Calculating the Concentration Term. OSWER Directive 9285.7-081. Office of Solid Waste and Emergency Response.
- EPA. 1992b. Guidance for Data Usability in Risk Assessment (Part A). Office of Emergency and Remedial Response, Washington, D.C. Publication 9285.7-09A.
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- EPA. 1997b. Health Effects Assessment Summary Tables (HEAST). FY 1997 Update. Office of Solid Waste and Emergency Response. PB97-921199.
- EPA. 1999a. A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents. Office of Solid Waste and Emergency Response. PB98-963241.

**Record of Decision
Naval Air Station South Weymouth
Appendices**

EPA 1999b, A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents, EPA 540-R-98-031.

EPA, 2000a, A Guide to Developing and Documenting Cost Estimates During the Feasibility Study, EPA-R-00-002.

EPA, 2000b, Integrated Risk Information System (IRIS). Environmental Criteria and Assessment Office. U.S. Environmental Protection Agency, Cincinnati, OH. [URL: <http://www.epa.gov/ngispgm3/iris>]

Masters, Gilbert M., 1991. Introduction to Environmental Engineering and Science, New Jersey: Prentice-Hall, Inc.

Viessman, Jr., W. and M. Hammer, 1993. Water Supply and Pollution Control, Fifth Edition, HarperCollins College Publishers.

**Record of Decision
Naval Air Station South Weymouth
Appendices**

Appendix C: Glossary of Terms

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law passed in 1980 and amended in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The Act created a special tax that goes into a Trust Fund, commonly known as Superfund, to investigate and clean up abandoned or uncontrolled hazardous waste sites. Navy compliance with CERCLA/SARA (see IR Program definition) is funded by the Department of Defense (DOD) under the Defense Environmental Restoration Act (DERA).

Chemicals of Concern (COCs): Compounds identified as a possible source of risk based upon a comparison between compound concentration and established screening levels (e.g., Federal Primary Drinking Water Standards).

Excess lifetime cancer risk range: Upper bound probability of an individual developing cancer as a result of a lifetime of exposure to a particular level of a potential carcinogen. The predicted cancer risk level is compared against an acceptable range of 1×10^{-4} to 1×10^{-6} .

Hazard Index: A measure of the potential for toxic (non-cancer related) effects from exposure to non-carcinogenic chemicals. A Hazard Index of 1 or less is considered an acceptable risk level by EPA.

Installation Restoration (IR) Program: A component of the DERA created under CERCLA regulations and funded by the DOD. The purpose of the Program is to identify, assess, characterize, and clean up or control contamination from past hazardous waste disposal operation and hazardous material spills at military activities.

National Priorities List: EPA's list of sites for priority cleanup under the Superfund Program.

Operable Unit: Operable units are site management tools that define discrete steps towards comprehensive actions, based on geographical portions of a site, specific site problems, initial phases of action, or any set of action performed over time or concurrently at different parts of the site.

Polychlorinated Biphenyls (PCBs): A chemical mixture commonly used in electrical transformers and other electrical components because they conduct heat well while being fire resistant and good electrical insulators.

Proposed Plan: A plan for site cleanup that is made available to the public for comment.

Remedial Investigation (RI): A summary report of the information collected on the nature and extent of contamination and the problems that the contamination could potentially cause (including assessment of human health and ecological risks) at a CERCLA site.

Record of Decision
Naval Air Station, South Weymouth, MA
Appendices

Appendix D: Administrative Record Index

File Number	Vol.	Doc. Number	Doc. Type	Document Title	Doc. Date	Document Preparer	Document Recipient	Document Location	OU
1.0 Site Assessment									
1.2		Preliminary Assessment							
1.2		1.2-1	R	Preliminary Assessment, NAS South Weymouth, Massachusetts	1998	Argonne National Laboratory	U. S. Dept. of the Navy	A.R. File	1,2,3,4,5,7,8,9
1.3		Site Inspection/Investigation							
1.3		1.3-1	R	Work Plan Site Investigation at NAS South Weymouth, Massachusetts	Mar-90	Baker Environmental Inc	U. S. Dept. of the Navy	A.R. File	1,2,3,4,5,7,8,9
1.3		1.3-2	R	Site Investigation at Naval Air Station South Weymouth, Massachusetts	Dec-91	Baker Environmental Inc	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9
3.0 Remedial Investigation (RI)									
3.2		Sampling and Analysis Data							
3.2		3.2-1	R	Data Validation Addenda Remedial Investigation South Weymouth Naval Air Station Weymouth, Massachusetts Addenda Volumes I, II, III, IV, V, & VI	Jan-97	Brown & Root Environmental (ENSR)	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9
3.2		3.2-2	R	Final Summary Report of Background Data Summary Statistics for NAS South Weymouth	Feb-00	Stone & Webster	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9,10
3.6		Remedial Investigation Reports							
3.6		3.6-1	R	Phase I Remedial Investigation, Naval Air Station, South Weymouth, Massachusetts Volumes I, II, III, & IV	July-98	Brown & Root Environmental (ENSR)	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9
3.6		3.6-2	R	Turtle Investigation Report for CY 1999	Apr-00	ENSR	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9,10
3.6		3.6-4	R	Basewide Groundwater Flow Assessment Phase II Remedial Investigation (secondary document, supplement to the Phase II RI)	Dec-00	Tetra Tech (ENSR)	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9,10

**Record of Decision
Naval Air Station South Weymouth
Appendices**

File Number	Vol.	Doc. Number	Doc. Type	Document Title	Doc. Date	Document Preparer	Document Recipient	Document Location	OU
3.6		3.6-5	R	Final Phase II Remedial Investigation Report, Rubble Disposal Area, NAS South Weymouth, Weymouth, Massachusetts (no appendices were re-issued)	Jan-01	Tetra Tech (ENSR)	U.S. Dept of the Navy	A.R. File	2,9
3.6		3.6-6	R	Phase II Remedial Investigation Appendices (AD-A), RDA, NAS South Weymouth	Jul-00	Tetra Tech (ENSR)	U.S. Dept of the Navy	A.R. File	2,9
3.6		3.6-7	R	Phase II Remedial Investigation Appendices (HH, ECO & RI), RDA, NAS South Weymouth	Nov-00	Tetra Tech (ENSR)	U.S. Dept of the Navy	A.R. File	2,9
3.6		3.6-8	R	Turtle Investigation Report for CY 2000	Apr-01	ENSR	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9,10
3.6		3.6-12	L	Potential Effects of Elevated pH Values on the Representativeness of Groundwater Samples, NAS South Weymouth (secondary document, supplement to Phase II RI)	Feb-02	ENSR	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9,10,11
3.7	Work Plans and Progress Reports								
3.7		3.7-1	R	Final Remedial Investigation Work Plan (Phase I), Naval Air Station, South Weymouth, Massachusetts	Jul-95	Brown & Root Environmental (ENSR)	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9
3.7		3.7-2	R	Final Remedial Investigation Work Plan (Phase I) FSP, QAPP, HASP; Volumes I and II	Nov-95	Brown & Root Environmental (ENSR)	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9
3.7		3.7-3	L	Ecological Technical Memorandum Work Plan, Naval Air Station, South Weymouth, MA	Jul-98	Brown & Root Environmental (ENSR)	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9
3.7		3.7-4	R	Phase II RI Work Plan NAS South Weymouth, MA (7 volumes including appendices)	Apr-99	TetraTech (ENSR)	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9
3.9	Health Assessments								
3.9		3.9-1	R	Public Health Assessment for USNAS South Weymouth CERCLIS No. MA2170022022	Mar-98	U.S. Dept of Health & Human Services	Public	A.R. File	1,2,3,4,5,7,8,9

**Record of Decision
Naval Air Station South Weymouth
Appendices**

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3.9		3.9-2	R	Public Health Assessment for USNAS South Weymouth, CERCLIS no. MA2170022022	Sep-99	U.S. Dept of Health & Human Services	Public	A.R. File	1,2,3,4,5,7,8,9
3.9		3.9-3	R	Public Health Assessment for USNAS South Weymouth, CERCLIS no. MA2170022022	Aug-01	U.S. Dept of Health & Human Services	Public	A.R. File	1,2,3,4,5,7,8,9
4.0 Feasibility Study (FS)									
4.2	Feasibility Study								
4.2		4.2-1	R	Consideration of Constructing a New Landfill, NAS South Weymouth (secondary document, supplement to the FSs)	Dec-00	ENSR	U.S. Dept of the Navy	A.R. File	1,2,3
4.2		4.2-2	R	Feasibility Study, RDA, NAS South Weymouth, Weymouth, Massachusetts	Mar-02	Tetra Tech (ENSR)	U.S. Dept of the Navy	A.R. File	2,9
4.9	Proposed Plans for Selected Remedial Action								
4.9		4.9-3	P	Proposed Plan, Operable Units 2 and 9, RDA, NAS South Weymouth, Weymouth, Massachusetts	02/03	ENSR	Public	A.R. File	2,9
5.0 Record of Decision (ROD)									
5.3	Responsiveness Summaries								
5.3		5.3-7		Copy of Public Comments Received on the Proposed Plan for the RDA (Included as Appendix E1 of the RDA Record of Decision)	2/24/03 – 4/10/03	Public	U.S. Dept of the Navy	A.R. File	2,9
5.3		5.3-8		Transcript of the Public Hearing on the Proposed Plan for the RDA (Included as Appendix E2 of the RDA Record of Decision)	Feb-03	Public	U.S. Dept of the Navy	A.R. File	2,9
5.3		5.3-9		Responsiveness Summary (Included as Part 3: The Responsiveness Summary of the RDA Record of Decision)	May -03	ENSR	Public	A.R. File	2,9

Record of Decision
Naval Air Station, South Weymouth, MA
Appendices

File Number	Vol.	Doc. Number	Doc. Type	Document Title	Doc. Date	Document Preparer	Document Recipient	Document Location	OU
5.4 Record of Decision									
5.4		5.4-3	R	Record of Decision, Operable Units 2 and 9 - RDA, NAS South Weymouth, Weymouth, Massachusetts	2003	ENSR	U.S. Dept of the Navy	A.R. File	2,9
10.0 Enforcement/Negotiation									
10.16	Federal Facility Agreements								
10.16		10.16-1	L	Federal Facility Agreement for South Weymouth Naval Air Station National Priorities List Site	Apr-00	EPA	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9
13.0 Community Relations									
13.2	Community Relations Plans								
13.2		13.2-1	R	Community Relations Plan Naval Air Station, South Weymouth, MA	Jul-98	U.S. Dept of the Navy	Public	A.R. File	1,2,3,4,5,7,8,9
13.4	Public Meetings/Hearings								
13.4		13.4-1		Restoration Advisory Board Workshop Guidebook	Jul-94	EPA	Public	A.R. File	1,2,3,4,5,7,8,9
13.4		13.4-6		Public Notice: Notification of Restoration Advisory Board Meeting (Monthly)	1995 - 2003	EA	Public	A.R. File	1,2,3,4,5,7,8,9,10,11
13.4		13.4-7		Restoration Advisory Board Meeting Minutes (Monthly)	1995 - 2003	U.S. Dept of the Navy	Public	A.R. File	1,2,3,4,5,7,8,9,10,11
13.5	Fact Sheets/Information Updates								
13.5		13.5-1		U.S. Navy Fact Sheet No. 1, NAS South Weymouth	Dec-96	ENSR	Public	A.R. File	1,2,3,4,5,7,8,9
13.5		13.5-2		The Former Naval Air Station South Weymouth	Feb-98	U.S. Dept of the Navy	Public	A.R. File	1,2,3,4,5,7,8,9
13.5		13.5-3		Environmental Update, NAS South Weymouth	Mar-98	NSRWA	Public	A.R. File	1,2,3,4,5,7,8,9
13.5		13.5-4		Groundwater Flow NAS South Weymouth	Oct-98	ENSR	Public	A.R. File	1,2,3,4,5,7,8,9
13.5		13.5-6		Environmental Cleanup Activities NAS South Weymouth Fact Sheet	Apr-00	ENSR	Public	A.R. File	1,2,3,4,5,7,8,9

**Record of Decision
Naval Air Station South Weymouth
Appendices**

File Number	Vol.	Doc. Number	Doc. Type	Document Title	Doc. Date	Document Preparer	Document Recipient	Document Location	OU
13.5		13.5-7		Arsenic Information from the Former Naval Air Station South Weymouth Fact Sheet	Nov-01	ENSR	Public	A.R. File	1,2,3,4,5,7,8,9
13.6	Mailing List								
13.6		13.6-1		Community Relations Mailing List: State, Federal and Local Agencies (including Media and Public Libraries)	N/A	U.S. Dept of the Navy	N/A	A.R. File	1,2,3,4,5,7,8,9
13.6		13.6-2		Community Relations Mailing List: Other Parties (e.g., general public) - CONFIDENTIAL (due to potential Privacy Act violations)	N/A	U.S. Dept of the Navy	N/A	EFANE	1,2,3,4,5,7,8,9
17.0 Site Management Records									
17.6	Site Management Plans and Reviews								
17.6		17.6-1	R	Site Management Plan Revision 3.0 NAS South Weymouth, MA	Apr-03	EA	U.S. Dept of the Navy	A.R. File	1,2,3,4,5,7,8,9
<p>Notes:</p> <div style="display: flex; justify-content: space-between;"> <div> <p>RDA - Rubble Disposal Area</p> <p>EPA - Environmental Protection Agency</p> <p>MADEP - Massachusetts Department of Environmental Protection</p> <p>ENSR, Brown & Root, Tetra Tech - Documents produced by ENSR International</p> <p>EA - EA Engineering, Science and Technology</p> <p>EFANE - Engineering Field Activity Northeast</p> <p>NSRWA - North and South Rivers Watershed Association</p> <p>CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act</p> <p>NAS - Naval Air Station (South Weymouth, Massachusetts)</p> <p>ROD - Record of Decision</p> <p>FS - Feasibility Study</p> </div> <div> <p>R - Report</p> <p>L - Letter</p> <p>M - Memorandum</p> <p>P - Proposed Plan</p> <p>OU - Operable Unit</p> <p>RI - Remedial Investigation Appendix</p> <p>AD-A, AD-B - Analytical Data Appendix</p> <p>HH - Human Health Risk Appendix</p> <p>ECO - Ecological Risk Appendix</p> <p>A.R. File - Administrative Record File</p> </div> </div>									